

## CLAIMS

1. A method of communicating information in an optical burst  
switched network, comprising the steps of:  
transmitting multiple channels of information over an optical  
transmission medium;  
for each channel:  
transmitting data bursts as series of one or more data slots;  
transmitting groups of control headers in a control slot, each of said  
control headers containing routing information for a data burst in the same  
channel.
2. The method of claim 1 wherein each control header precedes its  
associated data burst by at least a predetermined minimum time.
3. The method of claim 2 wherein each of the control headers  
precedes its associated data burst by no more than a predetermined maximum  
time.
4. The method of claim 1 wherein said data and control slots are  
arranged in one or more superframes.
5. The method of claim 4 wherein a burst may span two or more  
superframes.
6. The method of claim 4 wherein a control slot can be placed in an  
arbitrary slot position within a superframe.
7. The method of claim 1 wherein, for a particular channel, control  
slots are placed at regular intervals.
8. A router for communicating information in an optical burst  
switched network, comprising:

circuitry for transmitting multiple channels of information over an optical  
4 transmission medium, including, for each channel:

circuitry for transmitting data bursts as series of one or more data  
6 slots; and

circuitry for transmitting groups of control headers in a control slot,  
8 each of said control headers containing routing information for a data burst in  
the same channel.

9. The router of claim 8 wherein each control header precedes its  
2 associated data burst by at least a predetermined minimum time.

10. The router of claim 9 wherein each of the control headers precedes  
2 its associated data burst by no more than a predetermined maximum time.

11. The router of claim 8 wherein said data and control slots are  
2 arranged in one or more superframes.

12. The router of claim 11 wherein a burst may span two or more  
2 superframes.

13. The router of claim 11 wherein a control slot can be placed in an  
2 arbitrary slot position within a superframe.

14. The router of claim 8 wherein, for a particular channel, control slots  
2 are placed at regular intervals.

15. A network of interconnected routers for communicating  
2 information in an optical burst switched network, wherein one or more of the  
routers comprise:

4 circuitry for transmitting multiple channels of information over an optical  
transmission medium, including, for each channel:

6 circuitry for transmitting data bursts as series of one or more data

slots; and

8                   circuitry for transmitting groups of control headers in a control slot,  
each of said control headers containing routing information for a data burst in  
10 the same channel.

16.     The network of claim 15 wherein each control header precedes its  
2 associated data burst by at least a predetermined minimum time.

17.     The network of claim 16 wherein each of the control headers  
2 precedes its associated data burst by no more than a predetermined maximum  
time.

18.     The network of claim 15 wherein said data and control slots are  
2 arranged in one or more superframes.

19.     The network of claim 18 wherein a burst may span two or more  
2 superframes.

20.     The network of claim 18 wherein a control slot can be placed in an  
2 arbitrary slot position within a superframe.

21.     The network of claim 15 wherein, for a particular channel, control  
2 slots are placed at regular intervals.